UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,980	08/02/2001	Arun C. Alex	01-472	6119

		EXAMINER
7590	03/15/2006	PATEL, JAY P

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ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE/CPA filed 2/16/2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935.C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5, 7-13,15-17 and 21-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5 7-13,15-17 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 August 2001 and 04 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claim 1, 5, 7, 9-12, 17 and 21-24 are rejected under 35 U.S.C. 102(e) as being

anticipated by Verma et al. (US Patent 6522880 B1).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the

invention "by another," or by an appropriate showing under 37 CFR 1.131.

3.   In regards to claims 1, 17, 23 and 24 Verma anticipates receiving a registration request in step 402 in figure 6.

In further regards, Verma also anticipates determining a tunnel identifier in step 412 in figure 6 which is a tunnel_handoff_ request which includes the previous as well as new tunnel ID.

In further regards, Verma also anticipates transmitting the registration request to the home agent, the registration request including the tunnel identifier in a key field of a tunnel header of the registration request. The handoff request 412 in figure 6 is passed on to the tunnel endpoint which in Verma's architecture is a home agent (see figure 1, endpoint 50 and column 2, lines 10-12). Verma also teaches that using the mobile node's home agent information, tunnel initiator 30 in figure 1 establishes a L2TP (whose message header includes a tunnel ID field; see page 8 figure 3.1 in section 3.1 of RFC 2661 mailed with this office action) tunnel 56 to tunnel endpoint server 50 (home agent for the mobile node) (see figure 1 and column 2, lines 24-27).

In further regards, steps 414 and 416 in figure 6 which are a connection table query and a tunnel_handoff_response respectively anticipate receiving a response to the request and responsively activating a connection.

In further regards, receiving data packets form the home agent in response to transmitting the registration request, the data packets including the tunnel identifier in a key field of a tunnel header of the data packets is anticipated by the step 424 in figure 6 where data transfer is resumed. Verma also teaches that using the mobile node's home agent information, tunnel initiator 30 in figure 1 establishes a L2TP (whose message

header includes a tunnel ID field; see page 8 figure 3.1 in section 3.1 of RFC 2661

mailed with this office action) tunnel 56 to tunnel endpoint server 50 (home agent for the

mobile node (see figure 1 and column 2, lines 24-27).

In further regards, identifying the connection using the tunnel identifier, wherein

identifying the connection using the tunnel identifier comprises using the tunnel identifier

to identify an entry in a tunnel table and using the entry in the tunnel table to identify an

entry in the connection table is anticipated by the tunnel initiators 40 and 30 in figure 1

which respond to an establishment of a link to the mobile node (see figure 1 and column

2, lines 8-10) and the query connection table step 414 in figure 6.

In further regards, routing the packets along the connection is anticipated by the

data transfer step 424 in figure 6 and the subsequent data transfer that takes place

between the mobile node and the tunnel endpoint.

4.   In regards to claims 5 and 21, Verma anticipates receiving a registration request

from a mobile node having a home agent and the registration request also representing

a call. Step 402 in figure 6 is a registration request, the tunnel endpoint 50 in figure 1 is

a home agent for the mobile node (see figure 1 and column 2, lines 24-27) and step 412

in figure 6 is a tunnel handoff request which includes a call ID and a new call ID.

In further regards, Verma also anticipates assigning a tunnel identifier to the call

associated with the registration request in step 412 in figure 6 which is a

tunnel_handoff_ request which includes the previous as well as new tunnel ID.

In further regards, Verma also anticipates forwarding the registration request to

the home agent, the registration request including the tunnel identifier in a key field of a

tunnel header of the registration request. The handoff request 412 in figure 6 is passed

on to the tunnel endpoint which in Verma's architecture is a home agent (see figure 1,

endpoint 50 and column 2, lines 10-12). Verma also teaches that using the mobile

node's home agent information, tunnel initiator 30 in figure 1 establishes a L2TP (whose

message header includes a tunnel ID field; see page 8 figure 3.1 in section 3.1 of RFC

2661 mailed with this office action) tunnel 56 to tunnel endpoint server 50 (home agent

for the mobile node) (see figure 1 and column 2, lines 24-27).

In further regards, Verma also anticipates establishing a connection in step 424

where data transfer is resumed.

In further regards receiving a registration response and forwarding the

registration steps 414 and 416 in figure 6 which are a connection table query and a

tunnel_handoff_response respectively anticipate response to the mobile node. It is

noted that since data transfer takes place in step 424, it is inherent that the response is

forwarded to the mobile node.

In further regards, receiving packets of data from the home agent, each of the

packets of data including the tunnel identifier in a key field of a tunnel header of the

packet is anticipated by the step 424 in figure 6 where data transfer is resumed. Verma

also teaches that using the mobile node's home agent information, tunnel initiator 30 in

figure 1 establishes a L2TP (whose message header includes a tunnel ID field; see

page 8 figure 3.1 in section 3.1 of RFC 2661 mailed with this office action) tunnel 56 to

tunnel endpoint server 50 (home agent for the mobile node (see figure 1 and column 2,

lines 24-27).

In further regards, subsequently using the tunnel identifier to identify the connection for packets having the tunnel identifier, wherein identifying the connection using the tunnel identifier comprises using the tunnel identifier to identify an entry in a tunnel table and using the entry in the tunnel table to identify an entry in the connection table is anticipated by the tunnel initiators 40 and 30 in figure 1 which respond to an establishment of a link to the mobile node (see figure 1 and column 2, lines 8-10) and the query connection table step 414 in figure 6.

In regards to claim 7, Verma discloses in figure 7 a virtual PPP session is established between peer protocol entities in remote client 20 and tunnel endpoint 250 (see figure 7 and column 9, last line and column 10, lines 1-2).

5.   In regards to claims 9 and 22, Verma anticipates receiving a registration request in step 402 in figure 6.

In further regards, receiving a data stream, the data stream associated with the registration request, the data stream including a plurality of packets is anticipated by step 412 in figure 6, which is a tunnel_handoff_request.

In further regards, Verma also assigning a tunnel identifier to the data stream in step 412 in figure 6 which is a tunnel_handoff_ request which includes the previous as well as new tunnel ID.

In further regards, Verma also anticipates transmitting the registration request to the home agent, the registration request including the tunnel identifier in a key field of a tunnel header of the registration request. The handoff request 412 in figure 6 is passed on to the tunnel endpoint which in Verma's architecture is a home agent (see figure 1,

endpoint 50 and column 2, lines 10-12). Verma also teaches that using the mobile

node's home agent information, tunnel initiator 30 in figure 1 establishes a L2TP (whose

message header includes a tunnel ID field; see page 8 figure 3.1 in section 3.1 of RFC

2661 mailed with this office action) tunnel 56 to tunnel endpoint server 50 (home agent

for the mobile node) (see figure 1 and column 2, lines 24-27).

In further regards, receiving return packets of information, the return packets of

information including the tunnel identifier in a key field of a tunnel header of the return

packet is anticipated by the step 424 in figure 6 where data transfer is resumed. Verma

also teaches that using the mobile node's home agent information, tunnel initiator 30 in

figure 1 establishes a L2TP (whose message header includes a tunnel ID field; see

page 8 figure 3.1 in section 3.1 of RFC 2661 mailed with this office action) tunnel 56 to

tunnel endpoint server 50 (home agent for the mobile node (see figure 1 and column 2,

lines 24-27).

In further regards, translating the tunnel identifier into a connection and

transmitting the return packets using the connection, wherein translating the tunnel

identifier into the connection comprises using the tunnel identifier to identify an entry in

a tunnel table and using the entry in the tunnel table to identify an entry in a connection

table, is anticipated by the tunnel initiators 40 and 30 in figure 1 which respond to an

establishment of a link to the mobile node (see figure 1 and column 2, lines 8-10) and

the query connection table step 414 in figure 6.

In regards to claim 10, Verma discloses in step 406 in figure 6 a query of handoff

table using a mobile identification number (MIN).

In regards to claim 11, Verma discloses in figure 4 that the connection table 254 includes the mobile identification number (MIN), the tunnel ID value, a call ID value and the call state data for the connection (see column 8, lines 20-23).

In regards to claim 12, Verma discloses that the call state data can be related to the PPP protocol (see column 8, lines 30-31).

6.   Claims 13 and 15-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Perras (US Patent 6999435 B2).

In regards to claim 13, Perras anticipates a mobile node in step 402 where a mobile station performs link control protocol (LCP) negotiation and authentication (see figure 4 step 402, column 10, lines 26-28).

In further regards, Perras also anticipates, a packet data-switching node (PDSN) communicatively coupled to the mobile node, the PDSN receiving a registration request from the mobile node, the PDSN assigning a tunnel identifier to a plurality of packets received from the mobile node, the PDSN further inserting the tunnel identifier in a key field of a tunnel header of the plurality of packets. The mobile station performs LCP negotiation and authentication with a first service node 112a, which could be a PDSN (see column 6, lines 66-67); registration is a phase of authentication during LCP (see column 10, lines 36-38). The tunnel ID parameter is also stored (see column 10, lines 38-39). Furthermore, the service node 112a, establishes a L2TP tunnel with the LNS116 at step 404 in figure 4 (see column 10, lines 28-31; the L2TP message header includes a tunnel ID field; see page 8 figure 3.1 in section 3.1 of RFC 2661 mailed with this office action).

In regards to a home agent coupled to the PDSN, the home agent receiving and storing the tunnel identifier in the registration request and sending return packets to the PDSN including the tunnel identifier in a key field of a tunnel header of the return packets, Perras teaches that in Mobile IP, the mobile node also registers with a Home Agent (HA) node in the telecommunication network and that the home agent stores the mobile station's fixed IP address and associates the latter with an IP "point-ot-attachment address" (see column 1, lines 61-66 and column 2, lines 1-4).

In regards to wherein the PDSN receives a response message from the home agent and establishes a connection between the mobile node and the home agent and establishes a connection between the mobile node and the home agent, Perras discloses in figure 4 step 420 where the LNS establishes a connection with the mobile node via the service node 112a.

In regards to the PDSN extracting the tunnel ID from the return packet and translating it to a connection where the PDSN translates the tunnel ID into information identifying an entry into a tunnel table and using the tunnel table entry to identify a connection in a connection table, Perras discloses a database 118 in figure 4 where the mobile station's username, IP address and the tunnel ID parameter are stored and at step 420, the LNS establishes a connection with the mobile node via the service node 112a (see figure 4 and column 10, lines 42-49).

In regards to claim 15, Perras discloses in figure 6 the PPP stack 602 for establishing a PPP connection with the LNS (see figure 6 and column 11, lines 54-55).

In regards to claim 16, Perras discloses that the mobile station sends its username to the addressing module 608, which can access the database 118 which includes the stored tunnel ID (see column 12, lines 10-23).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verma et al. (US Patent 6522880 B1) as applied to claim 5 above, and further in view of Farinacci et al. (RFC 2748: Generic Routing Encapsulation (GRE)). Verma teaches all the limitations of claim 5 as stated above. Verma fails to teach the limitation of having a GRE header in the packet. Farinacci teaches the above-mentioned limitation. The system has a packet that needs to be encapsulated and delivered. The payload is first encapsulated in a GRE packet and the resulting packet is then encapsulated in some other protocol before being forwarded (page 2, 1st full paragraph, sentences 3-5). It would have been obvious to one skilled in the art to implement the header claimed in claim 5 and encapsulated the packet using the GRE protocol specified by Farinacci to allow protocol independent routing. The proper motivation comes from Farinacci where it is stated "It is the attempt of this protocol to provide a simple, general purpose

mechanism which reduces the problem of encapsulation from its current size to a more

manageable size" (page 2, 1st incomplete paragraph, 4th sentence).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jay P. Patel whose telephone number is (571) 272-

3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JPP 3/6/06

Jay P. Patel
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